

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Applicant notes that the Office Action Summary indicates that the certified copy of the priority document has not been received. Applicant requests that the certified copy of the priority document filed on November 7, 2003, be acknowledged.

Enclosed are: 1) a copy of the transmittal letter indicating that the priority document was filed on November 7, 2003; 2) a copy of the first page of the certificated copy; and 3) a copy of the returned post card referencing the certified copy. Accordingly, Applicant requests Acknowledgment of receipt of the certified copy.

Disposition of Claims

Claims 1-8 were pending in this application. By way of this Reply, claims 9 and 10 have been added. Thus, claims 1-10 are pending in this application. Claim 1 is independent. The remaining claims depend, directly or indirectly, from claim 1.

Claim Amendments

Claims 1-4 and 6-8 have been amended in this Reply to clarify the present invention recited. Further, claim 3 has been amended and new claim 9 has been added to solely remove multiple dependencies. Also, claim 8 has been amended and new claim 10 has been added to clarify the subject matter of claim 8. Support for these amendments may be found in, for example, the original claims. No new matter has been added.

Objection(s)

The specification is objected to because of informalities. As suggested by the Examiner, the specification has been amended in this Reply to solely delete the phrase “as set forth in claim 7.” Accordingly, withdrawal of this rejection is respectfully requested.

Claims 4-8 are objected to under 37 C.F.R. 1.75 (c) as being in improper form. Claims 4-8 have been amended to remove multiple dependencies. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection(s) under 35 U.S.C § 103

Claims 1-3 stand rejected under 35 U.S.C. § 103 (c) as obvious over U.S. Patent No. 6,234,031 (“Suga”). Claims 1-3 have been amended in this Reply to clarify the present invention recited. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

Independent claim 1, as amended, recites a structure of a resistance type sensor having a switching mechanism. As shown in, for example, Figs. 1-4, the resistance type sensor 1 of the present invention includes an operating portion 30, conductive lands D11-D14 and D21-24, displacement electrodes D0 and D1, and pressure-sensitive resistive inks R11, R12, R21, and R22 configured to cover the conductive lands D11-D14 and D21-D24. The conductive lands D11-D14 is configured to face the corresponding conductive lands D21-D24 respectively, and thereby the pressure-sensitive resistive inks R11, R12, R21, and R22 are disposed between the conductive lands D11-D14 and D21-D24. The pressure-sensitive resistive inks R11, R12, R21, and R22 serve as valuable

resistors R1-R4 (Fig. 4). Further, the displacement electrodes D0 and D1, which also face each other, are disposed between the operating portion 30 and the conductive lands D21-D24. The displacement electrodes D0 and D1 serve as a switch S1. The conductive lands D11-D14 and D21-24 and the displacement electrodes D0 and D1 are electrically connected to a microcomputer 5. Because of this configuration, when an external forces is applied to the operating button 30, the displacement electrodes D0 and D1 *primarily* come into contact with each other in accordance with displacement of the operating button 30 (*i.e.*, the switch S1 is turned on), thereby allowing current to flows through the resistors R1-R4, and *thereafter* displacement of the contacting displacement electrodes D0 and D1 cause any of pressure-sensitive resistive inks R11, R12, R21, and R22 to be deformed. As a consequence, resistance of any of pressure-sensitive resistive inks R11, R12, R21, and R22 varies, and accordingly the displacement of the operating button 30 can be identified. In view of this, independent claim 1, as amended, includes the limitations of “at least one first switching electrode disposed between the detective member and the second electrode and facing the detective member,” and “at least one second switching electrode disposed between the detective member and the first switching electrode, wherein the second switching electrode comes into contact with the first switching electrode—in accordance with displacement of the detective member.”

Suga, in contrast, fails to show or suggest at least the above limitations as recited in claim 1. Suga merely discloses a fingerprint detection apparatus using switching transistors arranged in a matrix. Specifically, as shown in Figs. 6 and 7, the switching transistors 110 and 111 are used for reading out capacitance of capacitive elements 109, which are formed by detective electrodes 103 and a flexible electrode 106, scanning data

lines 113 and 114. The switching transistors 110 and 111 are never turned on unless charging current in the capacitive elements 109 flows into any of gate electrodes of the switching transistors 110 and 111. This means that deformation of the flexible electrode 106 causes the switching transistors 110 and 111 to be turned on. The switching transistors 110 and 111 are activated by a change in capacitance of the capacitive elements 109.

On the other side, the resistance type sensor 1 of the present invention allows for the switch S1 (*i.e.*, formed by the displacement electrodes D0 and D1) being turned on independently of the change in resistance of the resistors R1-R4. Thus, the switching transistors 110 and 111 are not the same as, or equivalent to, the first switching electrode and the second electrode as recited in claim 1.

Further, as explicitly noted by the Examiner, Suga fails to show or suggest the second switching electrodes disposed between the detective member and the first switching electrode as recited in claim 1. Also, in view of above, Suga fails to show or the first switching electrodes as recited in claim 1.

The Examiner asserts in the Office Action that “the resistance values of the piezoelectric resistors varied by the deflective deformation of the insulating layer are utilized to output electric signals using switching electrodes (micro-conductors) wherein two electrodes disposed across a gap are brought into contact to establish a conducting state so that electric signals corresponding to the pressure distribution are outputted.” Applicant, however, respectfully disagrees and asserts that the present invention as recited in claim 1 is not rendered obvious by Suga because Suga teaches away from the invention as recited in claim 1. Specifically, Suga merely discloses a pressure sensor *alternatively* using piezoelectric resistors or micro-conductors. See col. 3, lines 44-66. Rather, Suga

recites drawbacks regarding a fingerprint sensor using piezoelectric resistors or micro-conductors. See col. 6, lines 42-52. There exists nothing that would lead one skilled in the art to combine the teachings of Suga, and there must be some suggestion or motivation to combine the reference teachings to support a proper obviousness rejection.

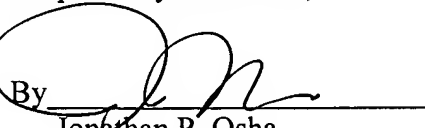
In view of the above, Suga fails to show or suggest the present invention as recited in claim 1 as amended. Thus, independent claim 1 as amended is patentable over Suga. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested. Also, entry and allowance of new claims 9 and 10 is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 07700.036001).

Dated:

Respectfully submitted,

By 
Jonathan P. Osha
Registration No.: 33,986
OSHA • LIANG LLP
1221 McKinney St., Suite 2800
Houston, Texas 77010
Telephone: 713.228.8600
Attorney for Applicant